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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,763	03/13/2006	Erasmus Van Nickerk	28211/41171	6703

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EXAMINER
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NDUBIZU, CHUKA CLEMENT

ART UNIT	PAPER NUMBER
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3749

MAIL DATE	DELIVERY MODE
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08/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,763	<b>Applicant(s)</b> VAN NIEKERK, ERASMUS	
	<b>Examiner</b> Chuka C. Ndubizu	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on through 3/31/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) 1-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 45-55 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>072805.050405</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 36-44 drawn to method of cleaning contaminants from cooking exhaust classified in class 95, subclass 212.
- II. Claims 45 -55 drawn to Apparatus for cleaning cooking exhaust, classified in class 126, subclass 299R.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process a can be practiced by passing grease laden cooking exhaust over a chilled surface to condense the grease and drain it off.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Anderson on August 23 2007 a provisional election was made with traverse to prosecute the invention of I claims 36-44. Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 45-55 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 36-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niekerk 5,935,300 in view of Prasser 5,456,244. Niekerk teaches the invention as claimed (figs 1-15), (claim 36) a method of removing contaminants from a contaminated gas or vapor stream, which method includes passing a contaminated gas or vapor stream through a bed of curled separating media in an downward direction (see fig 8) (column 8 line 36-38 43-45); allowing a contaminant in the contaminated gas or vapor stream to collect on the separating media 70 as the gas or vapor stream passes through the bed of separating media 62, thereby removing the contaminant from

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the gas or vapor stream and thus purifying the gas or vapor stream (column 8 line 45-49);

allowing the contaminant that has collected on the separating media to pass from the separating media into a collection zone 52 (column 8 line 49-51); removing the contaminant from the collection zone (column 10 line 33-36); and withdrawing a purified gas or vapor stream from the bed of separating media (column 8 line 51-57); (claim 37) wherein the thickness of the separating media bed is between 3 cm and 15 cm (column 12 line 45); (claim 38) wherein the curled separating media 72 are in the form of metal shavings (column 9 line 7-8); and wherein the shavings are less than 1 mm thick ( $0.2 \text{ mm} < 1 \text{ mm}$ ) (column 9 line 10), and between 1 mm and 10 mm wide (column 9 line 9). (claim 39) wherein some or all of the curled separating media are of elongate form and comprise a plurality of full spirals 72, so that they are then each a spiral separating medium (see fig 2); (claim 40) wherein each spiral separating medium is of constant diameter along its length (see fig 4), with the spiral separating media being arranged in a regular fashion or pattern in the bed (fig 2); wherein the spiral separating media extend parallel to one another in the bed (fig 2), and the direction of movement or passage of the gas or vapor stream through the bed is orthogonally to the longitudinal axes of all the spiral separating media (fig 2 column 8 line 45-46); wherein the bed comprises a plurality of layers of the spiral separating media (fig 2), with each layer comprising a plurality of the separating media located adjacent each other, and with each layer of the separating media thus resting on the separating media of the layer below it (fig 2); (claim 41) wherein the gas or vapor stream is at an elevated

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temperature, with the contaminant being in condensable vaporized form and/or in the form of fine droplets entrained or dispersed in the gas or vapor stream (column 8 line 31-34); (claim 42) the method further including passing the purified gas or vapor stream through a scrubber and/or biological filter to remove an undesired substance therefrom, before discharging the treated gas or vapor stream to atmosphere (column 8 line 62-67); (claim 44) wherein the linear velocity of the gas or vapor stream through the bed is up to 6 m/s (column 12 line 41-44).

However, Niekerk does not teach a method of removing contaminants, wherein the curled separating media each have a dimension or length of between 3 mm and 30 mm; and wherein adjacent separating media in each layer are of opposite hand so that their spirals rotate or extend in opposite direction; wherein the contaminated gas or vapor stream passes linearly, in the upward direction, through the bed of separating media.

Prasser discloses a cooking exhaust grease remover, wherein the contaminated gas or vapor stream 40 passes linearly, in the upward direction (see fig 1), through the bed of separating media 70.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Niekerk's device and method by making the stream of contaminated gas pass through the separating media bed in the upward direction in order to cheaply remove contaminants from the cooking exhaust so as to reduce fire threat from exhaust grease as taught by Prasser (column 3 line 53-55).

With regard to claim 40, the adjacent separating media in each layer of the separation media being of opposite hand so that their spirals rotate or extend in opposite direction is deemed a design choice since the Applicant failed to disclose any significance of this limitation. Niekerk discloses a device where the spirals do not rotate in opposite direction and his device works perfectly well.

With regard to claim 38, the separation media having a length of between 3 mm and 30 mm is deemed a design choice. Niekerk discloses separation media length of between 350 mm and 560 mm (column 9 line 8). The length of the media should be related to the size of the apparatus. Applicant failed to disclose any critically for the length being between 3 mm and 30 mm.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 36, 39, 40 and 43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, of U.S. Patent No. 5,935,300 in view of Prasser 5,456,244. Although the conflicting claims are not identical, they are not patentably distinct from each other because both teach a method of removing contaminants from a contaminated gas or vapor stream, which method includes passing a contaminated gas or vapor stream through a bed of curled separating media; allowing a contaminant in the contaminated gas or vapor stream to collect on the separating media as the gas or vapor stream passes through the bed of separating media, thereby removing the contaminant from the gas or vapor stream and thus purifying the gas or vapor stream allowing the contaminant that has collected on the separating media to pass from the separating media into a collection zone; removing the contaminant from the collection zone; and withdrawing a purified gas or vapor stream from the bed of separating media; wherein some or all of the curled separating media are of elongate form and comprise a plurality of full spirals, so that they are then each a spiral separating medium; wherein each spiral separating medium is of constant diameter along its length, with the spiral separating media being arranged in a regular fashion or pattern in the bed; wherein the spiral separating media extend parallel to one another in the bed, and the direction of movement or passage of the gas or vapor stream through the bed is orthogonally to the longitudinal axes of all the spiral separating media; wherein the bed comprises a plurality of layers of the spiral separating media, with each layer comprising a plurality of the separating media located adjacent each other, and with each layer of the separating media thus resting on the



separating media of the layer below it. Claims 36, 40 and 43 of the current application further teaches a method wherein adjacent separating media in each layer are of opposite hand so that their spirals rotate or extend in opposite direction; wherein the contaminated gas or vapor stream passes linearly, in the upward direction, through the bed of separating media.

Prasser discloses a cooking exhaust grease remover, wherein the contaminated gas or vapor stream 40 passes linearly, in the upward direction (see fig 1), through the bed of separating media 70.

With regard to the recitation that the adjacent separating media in each layer of the separation media is of opposite hand so that their spirals rotate or extend in opposite direction, this is deemed a design choice since the Applicant failed to disclose any significance of having the layers of opposite hand.

### ***Conclusion***


The prior art made of record in the attached USPTO 892 and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuka C. Ndubizu whose telephone number is 571-272-6531. The examiner can normally be reached on Monday - Friday 8.30 - 4.30.

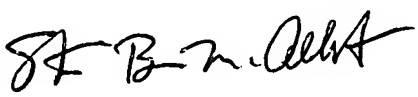
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000

  
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